**IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION**

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| ALARM.COM INC. and | § | |
| ICN ACQUISITION, LLC, | § | |
| | § | |
| Plaintiffs, | § | |
| | § | |
| v. | § | CIVIL ACTION NO. H-18-2108 |
| | § | |
| IPDATATEL, LLC, | § | |
| | § | |
| Defendant. | § | |

**MEMORANDUM AND OPINION**

This patent-infringement case involves home-security technology for "smart" devices, such as cellular phones and tablets. Before home-security systems incorporated cellular and smartphone technologies, they relied on telephone lines to relay data. Applications, or "apps," now allow users to activate and receive alarms, open doors, unlock windows, and receive alerts on various devices, wirelessly. This case arises out of the development of that technology.

Alarm.com Inc. and a wholly owned subsidiary, ICN Acquisition, LLC, sued ipDataTel, LLC in August 2017, alleging that it infringed U.S. Patent Nos. 7,113,090; 7,633,385; 7,956,736; 8,478,871; and 9,141,276. (Docket Entry No. 1 at ¶ 11). Alarm.com seeks injunctive relief and damages. (*Id.* at ¶ 82). ipDataTel denies infringement and alleges that the patents are invalid. (Docket Entry No. 98 at 2).

The parties have asked the court to construe eight terms in the '385, '736, and '276 patents. Alarm.com filed a claim-construction brief, ipDataTel responded, and Alarm.com replied. (Docket Entries Nos. 93, 100, 105). The court held a *Markman* hearing in September 2018, at which counsel argued their competing constructions. (Docket Entry No. 117). Based on the parties' claim-

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construction briefs, counsels' arguments, the record, and the applicable law, the court construes the eight disputed terms. The constructions and the reasons for them are set out in detail below.

## I.    Background

Alarm.com was incorporated in Delaware in 2000. It introduced its first wireless home-security system in 2003. (Docket Entry No. 46 at ¶ 15). Alarm.com describes itself as "a leading technology provider for connected home services," including "interactive security" and "remote video monitoring," "energy management," and "home automation." (*Id.* at ¶ 13). Alarm.com's technology connects smart devices into one system, controlled by a smart-phone app, using a cloud-based platform that integrates the alarm system with different types of devices. Current examples of these devices include an iPad, a cell phone, a smart watch, Apple TV, and Amazon Echo. The platform is sold and supported by "a nationwide network of licensed and authorized Security and Smart Home service providers." (*Id.* at ¶ 14). Alarm.com operates in North and South America and Australia. (*Id.* at ¶ 16). Coplaintiff ICN owns many of the patents-in-suit. (*Id.* at ¶ 17).

ipDataTel was incorporated in Texas in 2007. (*Id.* at ¶ 18). ipDataTel manufactures devices for home security and operates data centers for internet operations and applications, offering "interactive security capabilities" similar to Alarm.com. (*Id.* at ¶¶ 19–20). ipDataTel markets its products throughout the United States. (*Id.* at ¶ 22).

Alarm.com alleges that it and ipDataTel are direct competitors in the "home security or home automation market. The[] patents-in-suit . . . give Alarm.com a competitive edge." (Docket Entry No. 102 at 9:11–15). Alarm.com alleges that ipDataTel infringes five patents related to Alarm.com's home-security technology. (Docket Entry No. 46 at ¶ 12).

## A. The Patents

### i. The '090 Patent

This patent for a "System and Method for Connecting Security Systems to a Wireless Device" issued in September 2006. (*Id.* at ¶ 24 (citing U.S. Patent No. 7,113,090)). Before this patent, security systems consisted of a panel and sensors installed in a home. The panel had a keypad to control the system through a central monitor, which would detect "state changes" from sensors. (*Id.* at ¶ 26). Alarm.com recognized that this system could not relay other changes, such as opening or closing a door or window, and could not relay intrusions, when the system was not armed. (*Id.* at ¶ 27). The ability to detect and relay this information turns a home-security system into a kind of "nanny cam," enabling a homeowner to monitor, for example, when his adolescent children return from a night out, or what time a housekeeper arrives and leaves. The patented technology allows both an unarmed and armed system to transmit these kinds of events or intrusions to a database through a modem. (*Id.* at ¶ 28). Alarm.com alleges that this type of information transmission was a dramatic shift from prior systems, which recognized only "alarm events" and did so only when the system was armed. (*Id.* at ¶ 30). This added capability increased the amount of data, which the system processed and stored. (*Id.* at ¶ 33).

The patented technology also allows users to create notification preferences. (*Id.* at ¶ 34). Prior systems would call the homeowner's landline telephone and, if no one answered, alert the local police. (*Id.* at ¶ 36). Under the '090 patented technology, the user can choose which notifications are sent and how—for example, by email, text message, or telephone call. (*Id.* at ¶ 41). The user can also select multiple people to receive notifications before the system contacts the police. (*Id.* at ¶ 43).

### ii. The '385 and '736 Patents

These patents, both entitled "Method and System for Communicating With and Controlling an Alarm System From a Remote Server," (U.S. Patent Nos. 7,633,385 and 7,956,736), issued in December 2009 and June 2011. (Docket Entry No. 46 at ¶¶ 47–48). The '736 patent is a continuation of the '385 patent. Both "provide an upgrade unit that allows a user to keep an existing legacy alarm system rather than replacing that system." (*Id.* at ¶ 49).

Before the '385 and '736 patents issued, a user had to remove and replace a system to modify or upgrade it. (*Id.* at ¶ 50). A "legacy alarm system" usually had a controller connected to sensors throughout the house. The controller was connected to a central monitoring system, usually by a phone line. (*Id.* at ¶ 55). The user controlled the system through a keypad, which connected to the alarm controller through a "keypad bus." (*Id.* at ¶ 58). This system communicated with the external monitoring service only through the phone line, which was vulnerable to being cut. Alarm.com refers to this vulnerability as a "single point of failure." (*Id.* at ¶ 17). Another drawback of legacy systems was that they could send information only out to the monitoring system and could not receive information. (*Id.* at ¶ 63). The integrated communication system allowed for two-way cellular communication using a security panel, but installing the integrated system required removing the entire "legacy alarm system." (*Id.* at ¶ 65).

These patents address those shortcomings. Users can upgrade a legacy system without replacing it, by connecting a new communications unit with the keypad bus. (*Id.* at ¶ 69). The communications unit transmits and receives information through the existing security panel, without replacing the whole system. The communications unit also connects with a remote server to allow the user to control the system from outside the house. (*Id.* at ¶ 72).

### iii. The '871 Patent

This patent, "Gateway Registry Methods and Systems," issued in July 2013. (U.S. Patent No. 8,478,871). The '871 patent uses a "gateway" in conjunction with a "gateway registry" by assigning a unique serial number to the gateway for the gateway registry to identify. This method "improves the operation and efficiency of the gateway server." (Docket Entry No. 46 at ¶ 80). A "gateway" is a "device that acts as a 'gate' between two networks. It may be a router, firewall, server, or other device that enables traffic to flow in and out of the network." Gateway, THE TECH TERMS COMPUTER DICTIONARY (Oct. 8, 2018), https://techterms.com/definition/gateway.

### iv. The '276 Patent

The '276 patent, "Integrated Interface for a Mobile Device," issued in September 2015. (U.S. Patent No. 9,141,276). It concerns the mobile app a consumer uses to control a home-security system remotely. (Docket Entry No. 46 at ¶ 84). The app software allows any smartphone or similar device to synchronize the device to the security system. (*Id.* at ¶ 86).

### B. ipDataTel's Knowledge of the Patents

Alarm.com alleges that ipDataTel knew of the patents no later than the date the complaint was served. Alarm.com alleges that ipDataTel either actually knew of, or was willfully blind to, the patents even before the lawsuit, noting that Alarm.com's website "prominently displays" the patents and that the two companies directly compete. (Docket Entry No. 46 at ¶ 96). Alarm.com alleges that ipDataTel researched iControl Networks, Inc., which previously owned four of the patents—'385, '736, '871, and '276—and that ipDataTel and iControl are both members of the Z-Wave Alliance and had directly competed for customers. (*Id.* at ¶98). Alarm.com alleges that ipDataTel "affirmatively investigated" iControl's patent portfolio. (*Id.*). Alarm.com alleges that

ipDataTel gained knowledge of the patents through several earlier lawsuits, including: a 2013

lawsuit Alarm.com brought against Telular Corporation for infringement of the '090 patent; a 2004

lawsuit against Zonoff, Inc. related to the '871 patent; a second suit against Zonoff in 2015 for

infringement of the '385, '736, and '276 patents; and a 2017 suit against SecureNet Technologies

LLC and Protect America, Inc. related to the '090, '385, and '276 patents. (*Id.* at ¶¶ 100–102).

Alarm.com also alleges that ipDataTel knew of the patents through a publication called "Security

Industry Monitor," which contained information about them starting in March 2014. (*Id.* at ¶ 103).

## C.    The Disputed Terms

The parties initially disputed 25 terms across the 5 patents. (Docket Entry No. 59-1). The

parties now disagree on only 8 terms, in the '385, '736, and '276 patents. The disputed terms the

court is asked to construe are:

1.    select a communication mode [of the plurality of communication modes] ('385 Patent, Claim 1);

2.    means for performing a first pre-determined response ('736 Patent, Claim 12);

3.    means for receiving a first set of data over a network from an alarm system communication unit, wherein the first set of data comprises keypad bus information, the keypad bus information corresponds to a signal on a keypad bus of an alarm system controller, and the keypad bus of the alarm system controller provides communication between an alarm processor of the alarm system controller, a keypad processor, and the alarm system communication unit ('736 Patent, Claim 12);

4.    means for storing a set of responses to keypad bus information, wherein the keypad bus information comprises one of a plurality of events and conditions reported on the alarm system controller keypad bus, and each response of the set of responses corresponds to an event or condition of the plurality of events and conditions ('736 Patent, Claim 15);

5.    means for selecting the pre-determined response to the keypad bus information in the first set of data from the set of responses ('736 Patent, Claim 15);

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6.      custom-built for the mobile device ('276 Patent, Claims 2 and 14);

7.      performing . . . a synchronization to associate the mobile device with the monitoring system ('276 Patent, Claims 1 and 13); and

8.      synchronization ('276 Patent, all asserted claims).

## II.     The Legal Standards

### A.      Claim Construction

The "claims of a patent define the invention to which the patentee is entitled the right to exclude." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (quoting *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)). "[T]he construction of a patent, including terms of art within its claim, is exclusively within the province of the court." *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 372 (1996). Claim terms are "generally given their ordinary and customary meaning," defined as "the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention." *Phillips*, 415 F.3d at 1312–13 (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)). That is, a person who will "read the words used in the patent documents with an understanding of their meaning in the field, and [has] knowledge of any special meaning and usage in the field." *Id.* at 1313 (quoting *Multiform Desiccants, Inc. v. Medzam, Ltd.*, 133 F.3d 1473, 1477 (Fed. Cir. 1998)); *see also Medrad, Inc. v. MRI Devices Corp.*, 401 F.3d 1313, 1319 (Fed. Cir. 2005) (cautioning courts not to interpret claim terms "in a vacuum" (quotation omitted)).

Claim construction begins with the claim language. *Aptalis Pharmatech, Inc. v. Apotex Inc.*, 718 F. App'x 965, 968 (Fed. Cir. 2018). The court looks first "to the words of the claims themselves, both asserted and nonasserted, to define the scope of the patented invention," *Vitronics*,

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90 F.3d at 1582, and construes the claim terms in the context of the surrounding claim language. *Accord ACTV, Inc. v. Walt Disney Co.*, 346 F.3d 1082, 1088 (Fed. Cir. 2003) ("[T]he context of the surrounding words of the claim also must be considered in determining the ordinary and customary meaning of those terms."); *Lexion Med., LLC v. Northgate Techs., Inc.*, 641 F.3d 1352, 1356–57 (Fed. Cir. 2011). When the words in the context of the surrounding claim language make the ordinary meaning readily apparent, claim construction "involves little more than the application of the widely accepted meaning of commonly understood words." *Phillips*, 415 F.3d at 1314.

Patent-ese is notoriously clumsy and awkward, which makes construction more challenging. If the "ordinary and customary" meaning is unclear, the court moves from the words in the claims, viewed in context of the patent, to "the intrinsic evidence of record, i.e., the patent itself, including the claims, the specification and, if in evidence, the prosecution history." *Vitronics*, 90 F.3d at 1582. Courts review the "specification to determine whether the inventor has used any terms in a manner inconsistent with their ordinary meaning." *Id*. The Federal Circuit has repeatedly stated that "claims 'must be read in view of the specification, of which they are a part.'" *Phillips*, 415 F.3d at 1315 (quoting *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995), *aff'd*, 517 U.S. 370 (1996)). The specification, a "'concordance for the claims,'" *id.* (quoting *Autogiro Co. of Am. v. United States*, 384 F.2d 391, 397–98 (Ct. Cl. 1967)), is the "best source for understanding a technical term." *Id.* (quoting *Multiform Desiccants*, 133 F.3d at 1478).[1] "[T]he specification may reveal an intentional disclaimer, or disavowal, of claim scope by the inventor." *Id.* (citing *SciMed*

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[1] *See also Metabolite Labs., Inc. v. Lab. Corp. of Am. Holdings*, 370 F.3d 1354, 1360 (Fed. Cir. 2004) ("In most cases, the best source for discerning the proper context of claim terms is the patent specification wherein the patent applicant describes the invention."). When the specification "reveal[s] a special definition given to a claim term by the patentee that differs from the meaning it would otherwise possess . . . the inventor's lexicography governs." *Phillips*, 415 F.3d at 1316 (citing *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002)).

*Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc.*, 242 F.3d 1337, 1343–44 (Fed. Cir. 2001)); *see also Thorner v. Sony Comput. Entm't Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012) (claim construction may deviate from the ordinary meaning of a disputed term only if: (1) "a patentee sets out a definition and acts as his own lexicographer"; or (2) "the patentee disavows the full scope of a claim term, either in the specification or during prosecution").

"The construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be[] the correct construction." *Phillips*, 415 F.3d at 1316 (quoting *Renishaw PLC v. Marposs Società per Azioni*, 158 F.3d, 1243, 1250 (Fed. Cir. 1998)). "There is a fine line between construing the claims in light of the specification and improperly importing a limitation from the specification into the claims." *Retractable Techs., Inc. v. Becton, Dickinson & Co.*, 653 F.3d 1296, 1305 (Fed. Cir. 2011). Courts must "capture the scope of the actual invention, rather than strictly limit the scope of claims to disclosed embodiments or allow the claim language to become divorced from what the specification conveys is the invention." *Id.*

"[A] court 'should also consider the patent's prosecution history, if it is in evidence.'" *Phillips*, 415 F.3d at 1317 (quoting *Markman*, 52 F.3d at 980); *see also Typhoon Touch Techs., Inc. v. Dell, Inc.*, 659 F.3d 1376, 1381 (Fed. Cir. 2011) ("[T]he specification is the primary source for determining what was invented and what is covered by the claims, elucidated if needed by the prosecution history."). "[T]he prosecution history can often inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be." *Phillips*, 415 F.3d at 1317 (citing *Vitronics*, 90 F.3d at 1582–83). The prosecution history includes "all express representations made by or on behalf of the applicant to the examiner

to induce a patent grant, or . . . to reissue a patent . . . includ[ing] amendments to the claims and arguments made to convince the examiner that the claimed invention meets the statutory requirements of novelty, utility, and nonobviousness." *Standard Oil Co. v. Am. Cyanamid Co.*, 774 F.2d 448, 452 (Fed. Cir. 1985); *see also Sanofi-Aventis Deutschland GmbH v. Genentech, Inc.*, 473 F. App'x 885, 888 (Fed. Cir. 2012) ("We have held that an otherwise broadly defined term can be narrowed during prosecution through arguments made to distinguish prior art.") (citing *Phillips*, 415 F.3d at 1317).

"The doctrine of prosecution disclaimer is well established in Supreme Court precedent, precluding patentees from recapturing through claim interpretation specific meanings disclaimed during prosecution." *Omega Eng'g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1323 (Fed. Cir. 2003); *see also SanDisk Corp. v. Memorex Prods., Inc.*, 415 F.3d 1278, 1286 (Fed. Cir. 2005). The doctrine applies even if the disclaimers were not necessary to make the invention patentable. *See Uship Intellectual Props., LLC v. United States*, 714 F.3d 1311, 1315 (Fed. Cir. 2013) ("We find no support for [the] proposition that prosecution disclaimer applies only when applicants attempt to overcome a claim rejection. Our cases broadly state that an applicant's statements to the [United States Patent and Trademark Office] characterizing its invention may give rise to a prosecution disclaimer."); *cf. Southwall Techs., Inc. v. Cardinal IG Co.*, 54 F.3d 1570, 1583 (Fed. Cir. 1995) ("Estoppel extends beyond the basis of patentability. . . . Clear assertions made during prosecution in support of patentability, whether or not actually required to secure allowance of the claim, may also create an estoppel.") (citing *Tex. Instruments, Inc. v. United States Int'l Trade Comm'n*, 988 F.2d 1165, 1173 (Fed. Cir. 1993)).[2] Prosecution disclaimer does not apply "where the alleged

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[2] "There is a clear line of distinction between using the contents of the prosecution history to reach an understanding about disputed claim language and the doctrine of prosecution history estoppel which 'estops' or limits later expansion of the protection accorded by the claim to the patent owner under the

disavowal of claim scope is ambiguous." *Omega Eng'g*, 334 F.3d at 1324; *see also id.* at 1325

("[W]e have required the alleged disavowing statements to be both so clear as to show reasonable

clarity and deliberateness and so unmistakable as to be unambiguous evidence of disclaimer."

(citations omitted)). Only when "the patentee has unequivocally disavowed a certain meaning to

obtain his patent [does] the doctrine of prosecution disclaimer attach[ ] and narrow[ ] the ordinary

meaning of the claim congruent with the scope of the surrender." *Id.* at 1324.

Courts may also "rely on extrinsic evidence, which 'consists of all evidence external to the

patent and prosecution history, including expert and inventor testimony, dictionaries, and learned

treatises.'" *Phillips*, 415 F.3d at 1317 (quoting *Markman*, 52 F.3d at 980). Although extrinsic

evidence "can shed useful light on the relevant art, it is less significant than the intrinsic record in

determining the legally operative meaning of claim language." *Zircon Corp. v. Stanley Black &*

*Decker, Inc.*, 452 F. App'x 966, 972–73 (Fed. Cir. 2011) (quotations omitted). Extrinsic evidence

is generally "less reliable than the patent and its prosecution history" because it is "not part of the

patent" and was not created in patent prosecution: "extrinsic publications may not be written by or

for skilled artisans"; and expert reports and testimony created later, for litigation, may "suffer from

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doctrine of equivalents when the claims have been purposefully amended or distinguished over relevant prior art to give up scope. . . . [T]he two uses of the prosecution history must not be confused." *Biodex Corp. v. Loredan Biomedical, Inc.*, 946 F.2d 850, 862 (Fed. Cir. 1991) (quotations omitted); *see also Ballard Med. Prods. v. Allegiance Healthcare Corp.*, 268 F.3d 1352, 1358–59 (Fed. Cir. 2001) (distinguishing the two); *Spectrum Int'l, Inc. v. Sterilite Corp.*, 164 F.3d 1372, 1378 n.2 (Fed. Cir. 1998) (same). "Just as prosecution history estoppel may act to estop an equivalence argument under the doctrine of equivalents, positions taken before the [Patent and Trademark Office] may bar an inconsistent position on claim construction." *Ballard Med. Prods.*, 268 F.3d at 1359 (quoting *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1457 (Fed. Cir. 1998)) (alteration omitted). When the accused infringer argues that the prosecution history results in a narrowing of a claim's scope, there is no difference, and the Federal Circuit has refused to reverse based on references to estoppel. *See id.* at 1359 ("Because the substance of the district court's analysis was sound, we disregard the fact that the court used the term 'prosecution history estoppel' in an unconventional manner."); *Biodex Corp.*, 946 F.2d at 862–63 (observing that "Biodex is technically correct in asserting that the doctrine of prosecution history estoppel is 'irrelevant' to determination of literal claim scope," but upholding the district court because prosecution history is relevant to claim interpretation).

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bias not present in intrinsic evidence." *Phillips*, 415 F.3d at 1318. A court must use "sound discretion" in admitting and using extrinsic evidence. *Id.* at 1319; *see also Seattle Box Co., Inc. v. Indus. Crating & Packing, Inc.*, 731 F.2d 818, 826 (Fed. Cir. 1984) ("A trial judge has sole discretion to decide whether or not [s]he needs, or even just desires, an expert's assistance to understand a patent. We will not disturb that discretionary decision except in the clearest case.").

"[E]xtrinsic evidence may be useful to the court, but it is unlikely to result in a reliable interpretation of patent claim scope unless considered in the context of the intrinsic evidence." *Phillips*, 415 F.3d at 1319. Although a court may consider extrinsic evidence, it must not relegate the intrinsic evidence to a mere "check on the dictionary meaning of a claim term." *Id.* at 1320–21 (noting that relying on dictionaries "too often" causes "the adoption of a dictionary definition . . . divorced from the context of the written description"). "The sequence of steps used by the judge in consulting various sources is not important; what matters is for the court to attach the appropriate weight to be assigned to those sources in light of the statutes and policies that inform patent law." *Id.* at 1324 (citing *Vitronics*, 90 F.3d at 1582).

These claim-construction rules must be applied to the record in this case, including the tutorial counsel jointly provided the court, the arguments counsel presented during the *Markman* hearing, and the documents.

### B.     Indefiniteness

Under 35 U.S.C. § 112(2), a patent "specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor . . . regards as the invention." The Federal Circuit has explained:

> The primary purpose of the definiteness requirement is to ensure that the claims are
> written in such a way that they give notice to the public of the extent of the legal

> protection afforded by the patent, so that interested members of the public, e.g.,
> competitors of the patent owner, can determine whether or not they infringe. That
> determination requires a construction of the claims according to the familiar canons
> of claim construction.

*Oakley, Inc. v. Sunglass Hut Int'l*, 316 F.3d 1331, 1340 (Fed. Cir. 2003) (citing *All Dental Prodx,*

*LLC v. Advantage Dental Prods*., 309 F.3d 774, 779–80 (Fed. Cir. 2002) (citations omitted)). "One

of those canons is that claims are construed as one skilled in the art would understand them in light

of the specification of which they are a part." *Id*. at 1340–41 (citing *Orthokinetics, Inc. v. Safety*

*Travel Chairs, Inc*., 806 F.2d 1565, 1575 (Fed. Cir. 1986)).

A determination of claim indefiniteness is a legal conclusion reached by the court performing

its duty as the "construer of patent claims." *Tech. Licensing Corp. v. Videotek, Inc.*, 545 F.3d 1316,

1338 (Fed. Cir. 2008) (citing *Personalized Media Commc'ns, LLC v. Int'l Trade Comm'n*, 161 F.3d

696, 705 (Fed. Cir. 1998)). "To the extent there are any factual findings upon which a trial court's

indefiniteness conclusion depends, they must be proven by the challenger by clear and convincing

evidence." *Id.* (citing *Intel Corp. v. VIA Techs., Inc*., 319 F.3d 1357, 1366 (Fed. Cir. 2003)).

## C.      Means-Plus-Function Claims

Section 112(6) provides that "[a]n element in a claim for a combination may be expressed

as a means or step for performing a specified function without the recital of structure, material, or

acts in support thereof, and such claim shall be construed to cover the corresponding structure,

material, or acts described in the specification and equivalents thereof." 35 U.S.C. § 112(6). A

means-plus-function claim format allows a patentee to "describe an element of his invention by the

result accomplished or the function served, rather than describing the item or element to be used."

*Warner-Jenkinson Co., Inc. v. Hilton Davis Chem. Co*., 520 U.S. 17, 27 (1997). A patentee's use

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of the word "means" in a claim element that recites a function creates a presumption that the element is drafted in means-plus-function format. *Id.*; *TriMed, Inc. v. Stryker Corp.*, 514 F.3d 1256, 1259 (Fed. Cir. 2008). This presumption can be rebutted if the claim recites sufficient structure to accomplish the functions identified in the claim. *Welker Bearing Co. v. PHD, Inc.*, 550 F.3d 1090, 1096 (Fed. Cir. 2008).

"Sufficient structure exists when the claim language specifies the exact structure that performs the functions in question without need to resort to other portions of the specification or extrinsic evidence for an adequate understanding of the structure." *TriMed*, 514 F.3d at 1259–60. A claim recites sufficiently definite structure if it has "an understood meaning in the art" that connotes enough structure to fall outside § 112(6) or if it is "used in common parlance or by persons of skill in the pertinent art to designate structure, even if the term covers a broad class of structures." *Aspex Eyewear, Inc. v. Altair Eyewear, Inc.*, 288 F. App'x 697, 703 (Fed. Cir. 2008) (quotation omitted). If a claim includes a means-plus-function limitation, failure to disclose adequate structure corresponding to the claimed function results in invalidity for indefiniteness. *In re Dossell*, 115 F.3d 942, 946 (Fed. Cir. 1997); *see also Budde v. Harley-Davidson, Inc.*, 250 F.3d 1369, 1376 (Fed. Cir. 2001) ("For a court to hold that a claim containing a means-plus-function limitation lacks a disclosure of structure in the patent specification that performs the claimed function, necessarily means that the court finds the claim in question indefinite, and thus invalid."); *Cardiac Pacemakers, Inc. v. St. Jude Med., Inc.*, 296 F.3d 1106, 1114 (Fed. Cir. 2002); *Aristocrat Techs. Austl. PTY Ltd. v. Int'l Game Tech.*, 521 F.3d 1328, 1331 (Fed. Cir. 2008).

If means-plus-function analysis applies, a court first determines what the claimed function is and then determines the corresponding structures disclosed in the specification that perform that

function. *Welker Bearing*, 550 F.3d at 1097; *Minks v. Polaris Indus., Inc.*, 546 F.3d 1364, 1377 (Fed. Cir. 2008); *Tex. Dig. Sys., Inc. v. Telegenix, Inc.*, 308 F.3d 1193, 1208 (Fed. Cir. 2002). "Structure disclosed in the specification qualifies as corresponding structure if the intrinsic evidence clearly links or associates that structure to the function recited in the claim." *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1352 (Fed. Cir. 2015). Whether the written description adequately sets forth structure corresponding to the claimed function must be considered from the perspective of a person skilled in the art. *Intel Corp.*, 319 F.3d at 1365–66 (citing *Budde*, 250 F.3d at 1376). The question is not whether one skilled in the art would be capable of implementing a structure to perform the function, but whether that person would understand the written description itself to disclose such a structure. *Biomedino, LLC v. Waters Techs. Corp.*, 490 F.3d 946, 953 (Fed. Cir. 2007) (citing *Med. Instrumentation & Diagnostics Corp. v. Elekta AB,* 344 F.3d 1205, 1212 (Fed. Cir. 2003)).

The Federal Circuit has made clear that disclosing a general-purpose computer capable of running specialized software, without more, does not supply sufficient structure for means-plus-function claims involving a computer that must be specially programmed to perform a specific set of functions. *See WMS Gaming, Inc. v. Int'l Game Tech.*, 184 F.3d 1339, 1349 (Fed. Cir. 1999). The structure that the specification must disclose is "not the general purpose computer, but rather the special purpose computer programmed to perform the disclosed algorithm." *Id.*; *see also Harris Corp. v. Ericsson, Inc.*, 417 F.3d 1241, 1253 (Fed. Cir. 2005) ("A computer-implemented means-plus-function term is limited to the corresponding structure disclosed in the specification and equivalents thereof, and the corresponding structure is the algorithm."); *Gobeli Research Ltd. v. Apple Comput., Inc.*, 384 F. Supp. 2d 1016, 1022 (E.D. Tex. 2005) ("The Federal Circuit has made

clear that when software is linked to the disclosed function, the structure for performing the function is limited to the algorithm disclosed in the specification.") (citing *WMS Gaming*, 184 F.3d at 1348–49*; Harris*, 417 F.3d at 1253).

The Federal Circuit does not impose a "lofty standard" to avoid indefiniteness for means-plus-function claims involving computers that must be specially programmed to perform recited functions. *Brown v. Baylor Health Care Sys.*, 662 F. Supp. 2d 669, 681 (S.D. Tex. 2009), *aff'd sub nom. Brown v. Baylor Healthcare Sys.*, 381 F. App'x 981 (Fed. Cir. 2010). A patentee may express an algorithm "in any understandable terms including as a mathematical formula, in prose, or as a flow chart, or in any other manner that provides sufficient structure." *Finisar Corp. v. DirecTV Grp., Inc.*, 523 F.3d 1323, 1340 (Fed. Cir. 2008).

"The usage 'algorithm' in computer systems has broad meaning, for it encompasses in essence a series of instructions for the computer to follow . . . whether in mathematical formula, or a word description of the procedure to be implemented by a suitably programmed computer." *Typhoon Touch*, 659 F.3d at 1384 (quotation omitted). "The term 'algorithm' [is] a term of art," which the Federal Circuit broadly defines as "[a] fixed step-by-step procedure for accomplishing a given result; usually a simplified procedure for solving a complex problem, also a full statement of a finite series of steps." *Id.* at 1385.

In limited circumstances, an exception to the algorithm disclosure requirement applies. In *In re Katz Interactive Call Processing Patent Litig.*, 639 F.3d 1303, 1315 (Fed. Cir. 2011), the Federal Circuit held that in some cases, "a standard microprocessor can serve as sufficient structure for 'functions [that] can be achieved by any general purpose computer without special programming.'" *EON Corp. IP Holdings LLC v. AT&T Mobility LLC*, 785 F.3d 616, 621 (Fed. Cir.

2015) (quoting *Katz*, 639 F.3d 1303 at 1316). The *Katz* court held that "claim terms involving basic

'processing,' 'receiving,' and 'storing' functions were not necessarily indefinite because a general

purpose computer need not be 'specifically programmed to perform the recited function.'" *Id*.

Courts must determine whether the patent-in-suit "requires a special purpose computer specifically

programmed to carry out the recited functions associated with the . . . limitation." *Noah Sys., Inc.*

*v. Intuit Inc.*, 675 F.3d 1302, 1312 n.8 (Fed. Cir. 2012). If a special purpose computer is required,

the general rule, not the *Katz* exception, controls. *Id; see Ergo Licensing, LLC v. CareFusion 303,*

*Inc.*, 673 F.3d 1361, 1364 (Fed. Cir. 2012) (explaining that the *Katz* exception is "narrow").

These general rules and narrow exceptions are examined for each of the eight disputed terms.

## III.    Claim Construction

### A.    The '385 Patent—Construing "select a communication mode of the plurality of communications modes."

The disputed term in claim 1 is set out in bold:

1.    A system comprising:

> a communications unit, coupled to a keypad bus of an alarm system controller unit and an external network via a plurality of communication modes, and configured to receive a first signal on the keypad bus from the alarm systems control unit,

>> **select a communications mode of the plurality of communication modes** to communicate to the external network, and

>> transmit a first set of data comprising information from the first signal to the external network over the selected communication mode; and

> a network server coupled to the external network and configured to receive the first set of data transmitted by the communications unit, and perform a pre-determined response to the information in the first set of data.

('385 Patent, Claim 1).

### i.       The Parties' Contentions

Alarm.com argues that the term means "execute software implemented algorithms to select the appropriate mode of electronic communication." (Docket Entry No. 59-1 at 4). ipDataTel contends that the term means "determine which communication mode is the best for transmitting data to the external network at any point in time." (*Id.*).

Alarm.com argues that ipDataTel's proposed construction "wrongly excludes a disclosed embodiment." (Docket Entry No. 93 at 9). Under ipDataTel's construction, the term "exclude[s] instances where the . . . unit gives 'primary preference to a particular communication mode, and then secondary preference to a different communication mode.'" (*Id.* at 9–10). But "the '385 patent [specification] discloses a [second] embodiment . . . where the . . . unit 'can be configured to give the primary preference to a particular communications mode (e.g., broadband), and then secondary preference to a different communications mode (e.g., cellular), and so on.'" (*Id.* at 10). Alarm.com also argues that ipDataTel has failed to establish that it disclaimed the broader scope set out in the second embodiment.

ipDataTel responds that Alarm.com "is improperly trying to expand the scope of the claim to cover devices for which [i]nternet is always the 'primary' mode and cellular is used only when the [i]nternet is not available[,] rather than the claimed devices configured to 'select' a mode for transmitting keypad bus information." (Docket Entry No. 100 at 8). ipDataTel contends that Alarm.com "improperly incorporate[s] an alternative 'fail over' or 'redundant' mode that existed in the prior art ('385 Patent 2:1–4) into its construction of 'selecting' to try to cover ipDataTel's

products," and that "[t]his prior art configuration is described as an 'alternative' to the process by which the processor monitors all modes and selects the mode based on which is best." (*Id.* at 9). Alarm.com agreed to ipDataTel's construction, but only if the construction "contains the [second] embodiment." (Docket Entry No. 119 at 32: 23–24).

### ii. Analysis

The parties' dispute centers on whether the processor selects only a primary mode, or whether the processor also communicates through a secondary mode if the primary mode is unavailable. The '385 specification states:

> As the communications processor determines the best communication mode, that mode is then used for communication between unit **210** and server system **270** until a determination is made that an alternate communication mode is more appropriate. Alternatively, the communications processor can be configured to give primary preference to a particular communications mode (e.g., broadband), and then secondary preference to a different communications mode (e.g., cellular), and so on.

('385 Patent, Column 5, Lines 10–19). Although the specification discloses both embodiments, ipDataTel argues that prior art precludes Alarm.com from claiming the second embodiment—that the processor can also be configured to communicate through the secondary mode if the primary mode is unavailable. The '385 specification states that "[o]ther security systems exist that can provide either a redundant communication mode or two-way communication between the security system and a remote server, either accessed by a central monitoring service system or a user." ('385 Patent, Column 2, Lines 1–4). Alternatively, Alarm.com asks the court to adopt the term's plain meaning. (Docket Entry No. 119 at 32: 17–19).

The court construes the term to mean "determine which communication mode is the best for transmitting data to the external network at any point in time." The record does not permit or require

the court to read the term so narrowly as to exclude an embodiment set out in the specification and consistent with the claim language. Alarm.com signaled that it is open to this construction, because it does not exclude the second embodiment described in the specification. Because this construction does not choose between the communicator making a selection at the time of decision or acting on a preset range of alternatives, the parties may raise this issue, with evidence of the prior art, on summary judgment.

> **B.** **The '736 Patent—Construing "means for receiving a first set of data"; "means for performing a first pre-determined response"; "means for storing a set of responses to keypad bus information"; and "means for selecting the pre-determined response."**

The parties disagree on four terms in the '736 patent, two in claim 12 and two in claim 15. The parties agree that the terms are means-plus-function terms governed by 35 U.S.C. § 112(6). The disputed terms in claims 12 and 15 are set out in bold:

> 12. An apparatus comprising:
>
> > **means for receiving a first set of data over a network from**
> >
> > > **an alarm system communication unit, wherein**
> > >
> > > **the first set of data comprises keypad bus information, the keypad bus of information corresponds to a signal on a keypad bus of an alarm system controller, and**
> > >
> > > **the keypad bus of the alarm system controller provides communication between an alarm processor of the alarm system controller, a keypad processor, and the alarm system communication unit**; and
> >
> > **means for performing a first pre-determined response** to the keypad bus information in the first set of data . . . .
>
> 15. The apparatus of claim **12** further comprising:
>
> > **means for storing a set of responses to keypad bus information, wherein**

> **the keypad bus information comprises one of a plurality of events and conditions reported on the alarm system controller keypad bus, and**
>
> **each response of the set of responses corresponds to an event or condition of the plurality of events and conditions**; and
>
> **means for selecting the pre-determined response to the keypad bus information in the first set of data from the set of responses**.

('736 Patent, Claims 12 and 15).

Alarm.com argues that: (1) the "means for receiving" function is "receiving a first set of data over a network from an alarm system communication unit"; (2) the "means for performing" function is "performing a first pre-determined response"; (3) the "means for storing" function is "storing a set of responses to the keypad bus information"; (4) the "means for selecting" function is "selecting a pre-determined response"; and (5) the corresponding structure is "a processor performing the algorithm set forth in Fig[ure] 6." (Docket Entry No. 59-1 at 7–10). ipDataTel contends that the terms are indefinite. (*Id.*).

Indefiniteness turns on three issues: (1) whether the claim is "clearly linked" to a corresponding structure, enabling "a person of ordinary skill in the art to recognize the structure . . . and associate it with the corresponding function in the claim," *Williamson*, 792 F.3d at 1352; (2) whether the structure is an algorithm; and (3) if not, whether the *Katz* exception to the algorithm requirement applies. The first issue is a threshold matter. If Alarm.com cannot satisfy the "clearly linked" element, the terms are indefinite. Because Alarm.com conceded that the hardware is not innovative, (Docket Entry No. 102 at 34: 3–8), the alleged structure must disclose an algorithm unless the *Katz* exception applies. The parties contest: (1) whether Alarm.com's alleged structure,

"a processor," is "clearly linked" to the claimed functions; and (2) whether Figure 6 recites an algorithm.

<p style="text-align:center"><b>i.      The Parties' Contentions</b></p>

Alarm.com claims that the structure underlying the four disputed terms is "a processor performing the algorithm set forth in Fig[ure] 6." (Docket Entry No. 93 at 12–17). Figure 6 provides:
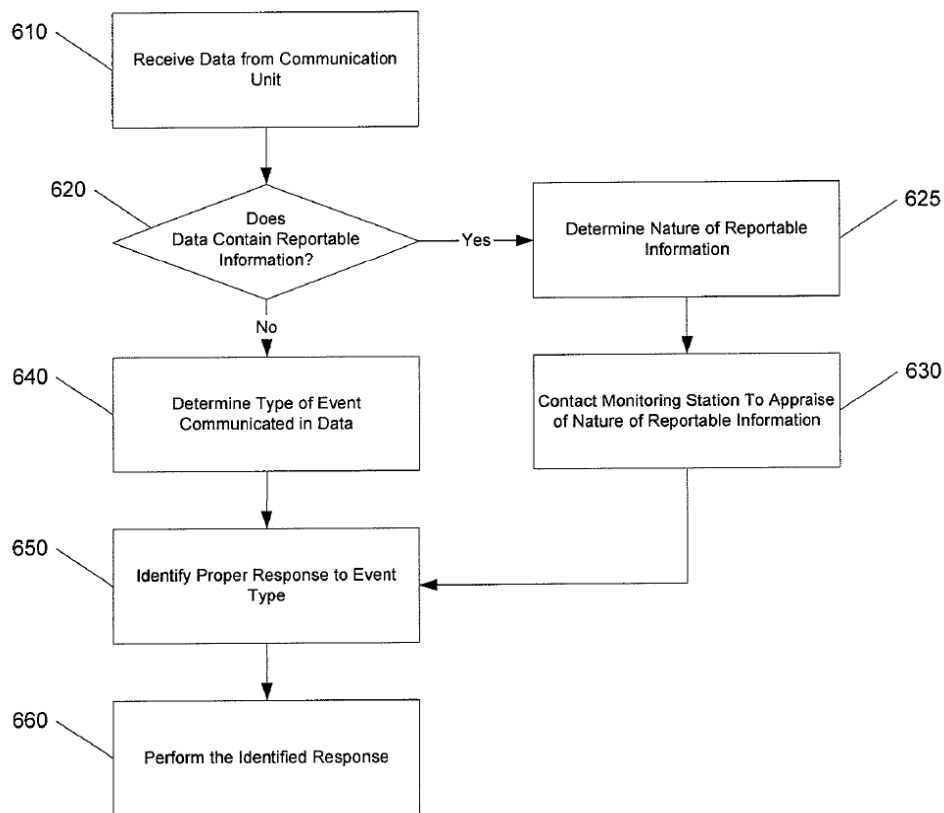


Alarm.com cites Figure 6 to confirm that "a processor performing the algorithm set forth in Fig[ure] 6" is the structure:

> F[igure] **6** is a simplified flow diagram illustrating a method followed by a ***remote server system*** in response to receiving data from a communications unit, in accord

with embodiments of the present invention. The **remote server system** can receive data transmitted by a communications unit . . . . The data will be received by the **remote server system** over a communication mode selected by the communication unit.

('736 Patent, Column 8, Lines 35–42) (emphasis added). Alarm.com argues that Figure 6 sets out an algorithm in flow-chart form. (Docket Entry No. 105 at 7). Because Figure 6 discloses a structure, and because the Federal Circuit does not require patentees to include code in an algorithm, Alarm.com maintains that Figure 6 sufficiently discloses an algorithm. (*Id.*). Alarm.com also cites Figure 8 and the description of it in the specification, which includes "a computer system" and "a central processor." (Docket Entry No. 119 at 41: 17–22); ('736 Patent, Column 10, Lines 28–48). Figures 6 and 8, Alarm.com contends, establish that "a person of ordinary skill in the art would recognize that a 'remote server system' containing a processor is the structure corresponding to the [claimed] function[s]." (Docket Entry No. 93 at 13–14).

Alternatively, Alarm.com argues that the algorithm requirement does not apply to two of the four claimed terms because the *Katz* exception applies. Alarm.com contends that the terms, "means for storing" and "means for receiving," include the storing and receiving functions that *Katz* excepts from the algorithm requirement. (Docket Entry No. 105 at 7–8, 13–14). Alarm.com argues that because a general-purpose computer can execute those functions without any special programming, "it [is] not necessary to disclose more structure than the general purpose processor that performs those functions." (*Id.* at 8).

ipDataTel responds that the "processor" "is not a 'corresponding structure' to the four recited functions." (Docket Entry No. 100 at 10). ipDataTel argues that under *Noah*, the structure "is not 'clearly link[ed] or associate[ed]' in the specification to" the functions because "a processor is not even mentioned in the portion of the specification . . . that Alarm.com relies on." (*Id.*). The

specification that Alarm.com cites in Figure 6 refers only to a remote server, not a processor. ipDataTel argues that even though the system described in the specification might include a processor, it does not identify the type of remote server or whether it contains a processor. ipDataTel concludes that the claim term is indefinite because Alarm.com fails to "clearly link" the alleged structure to the claimed functions.

ipDataTel also responds that "Alarm.com has not identified an algorithm that performs the recited functions." (*Id.* at 11). ipDataTel contends that "Figure 6 . . . is not an 'algorithm' for performing any of the recited . . . functions. Rather, it shows only a non-specific 'method performed by a remote server system in response to receiving data from a communications unit.'" (*Id.*). ipDataTel argues that expert testimony is not needed to show indefiniteness. Because the specification does not include an algorithm, "the principle that the sufficiency of the algorithm structure must be gauged from the perspective of a person of ordinary skill in the art does not apply." (*Id.* at 11–12).

### ii. Analysis

#### 1. The "Clearly Linked" Requirement

In *Blackboard, Inc. v. Desire2Learn, Inc.*, 574 F.3d 1371, 1382 (Fed. Cir. 2009), the plaintiff "asserted that the structure that performs the recited 'means for assigning' function is 'a server computer with an access control manager and equivalents thereof.'" The plaintiff claimed that the specification sufficiently explained "the operation of the access control manager":

> [T]he access control manager assigns an access and control level for the quiz file based on a user's course role by creating an access control list. The access control list created by the access control manager associates user roles with the levels for course data files. For example, it might provide that teachers can create, view, and edit a quiz, while students can only submit a completed quiz.

*Id*. at 1383. The Federal Circuit held that the specification excerpt was "not a description of the structure." *Id.* Instead, "what the patent calls the 'access control manager' is simply an abstraction that describes the function of controlling access to course materials, which is performed by some undefined component of the system." *Id.* The court found that the "clearly linked" requirement was not satisfied because "the specification contains no description of the structure or the process that the access control manager uses to perform the 'assigning' function." *Id.*

Alarm.com's argument that the claimed functions are "clearly linked" to the "processor" structure fails for the same reason. The "processor" Alarm.com identifies is a "remote server system" that "contain[s] a processor." (Docket Entry No. 105 at 5). Alarm.com cites examples of a "remote server system" in the '736 patent specification, but, as ipDataTel correctly observes, neither "remote server system" nor the cited specification sections include a "processor." Nor does Figure 6. As in *Blackboard*, the '736 patent "contains no description of the ['processor'] structure" for the claimed functions. *Blackboard*, 574 F.3d at 1383.

Alarm.com's attempt to link "processor" with "remote server system" is also unavailing. Those terms are not interchangeable. While a "remote server" might include "a processor," greater particularity is needed to satisfy the Federal Circuit's requirement that "[s]ufficient structure exists when the claim language *specifies the exact structure that performs the function in question*." *TriMed*, 514 F.3d at 1259–60 (emphasis added).

At the *Markman* hearing, Alarm.com argued that the patent sufficiently disclosed the "processor" structure because Figure 8 and the description in the specification include "a central processor." (Docket Entry No. 119 at 41–43). But Figure 8 and the description of it in the specification discuss how "the present invention can be implemented using a variety of computer

systems." ('736 Patent, Column 10, Lines 28–48).  Those parts of the specification do not address

the claimed functions.  Figure 8 does not "clearly link" the "processor" to the functions because

Figure 8 is disclosed in a different context than the specification excerpts that describe the "remote

server system" and the claimed terms.

Alarm.com argues that the '736 disclosure "mirrors that of the 'means for receiving a

downloadable' limitation in *Finjan, Inc. v. Symantec Corp.*, No. 14-cv-02298-HSG, 2017 WL

550453 (N.D. Cal. Feb. 10, 2017).  (Docket Entry No. 105 at 7).  In *Finjan*, the district court found

that the patent "designates the 'Downloadable file interceptor' as the structure that performs the

'receiving a Downloadable' function" because the structure "is mentioned in the specification

several times."  *Finjan*, 2017 WL 550453, at *4.  "The specification states that Figure 5 represents

a[n] engine," which includes a "a *Downloadable file interceptor*."  *Id.* (emphasis in original).  The

"specification also uses the term 'Downloadable file interceptor' in relation to Figure 7."  *Id.*  Here,

unlike the *Finjan* patent, the specification does not include "processor" in the cited specification

excerpts. Even though the '736 specification recites a "remote server system," the analogy to *Finjan*

fails because "remote server system" is not the "processor" identified by Alarm.com, and the

specification discloses "a central processor" in the context of Figure 8, not in the context of the

claimed functions.

Because "the ['736 patent] specification does not contain an adequate disclosure of the

structure that corresponds to the claimed function[s]," Alarm.com has "failed to particularly point

out and distinctly claim the invention as required by" § 112(2).  *Blackboard*, 574 F.3d at 1382

(quotation omitted).  The terms, "means for receiving a first set of data," "means for performing a

first pre-determined response," "means for storing a set of responses to keypad bus information," and "means for selecting the pre-determined response," are indefinite.

## 2. The Algorithm-Disclosure Requirement

The terms are indefinite even if the functions are "clearly linked" to the "processor" structure because the specification fails to disclose an algorithm performing the claimed functions. Alarm.com contends that Figure 6 is the algorithm for these functions, and that it is analogous to the algorithm in *Typhoon Touch Techs., Inc. v. Dell, Inc.*, 659 F.3d 1376 (Fed. Cir. 2011). (Docket Entry No. 105 at 11). In *Typhoon Touch*, the Federal Circuit reversed the district court's indefiniteness finding because the function, "computer-implemented cross-referencing," was "supported by the 'structure, materials, or acts' in the specification." *Typhoon Touch*, 659 F.3d at 1386. The specification included an "introduction of the overall" algorithm, a heading entitled "Cross Referencing," and a description of the function. *Id.* at 1385. That description stated:

> Cross-Referencing imports that, for each answer field, the entered response can be related to a library to determine if the response in the answer field is existent in the library. In other words, the answer information is cross-referenced against that specific library. If it is available in that library, then, corresponding to that library entry, an action is executed. For instance, the associated action can involve an overlay window that alerts the user of the fact of the match with the library entry, or displays the contents of an information field stored in association with that entry in the memory.

*Id.* Here, the "receiving," "performing," "storing," and "selecting" functions, unlike the "cross referencing" function in *Typhoon Touch*, are steps in the Figure 6 process, not independent algorithms.

Alarm.com contends that Figure 6 "discloses . . . how it performs the claimed function[s]" because the Figure 6 description in the specification states: (1) "[t]he data will be *received* by the remote server system over a communication mode selected by the communication unit"; (2) "the

27

remote server system can then *perform* the identified response"; (3) "the remote server can then *identify* a proper response"; and (4) "identification of a proper response can be performed through a search of a set of responses *stored* by the remote server system." (Docket Entry No. 105 at 6, 9, 11, 13–14 (emphasis added) (quoting '736 Patent Column 8, Line 35–Column 9, Line 15)). But the specification and the boxes in Figure 6 that correspond to these steps recite "purely functional language, which simply restates the function[s] associated with the means-plus-function limitation[s]." *Noah*, 675 F.3d at 1317. Figure 6 does not disclose an algorithm for the structure because it does not describe how the "receiving," "performing," "storing,"[3] and "selecting" functions occur. Because the hardware is not innovative, the failure to disclose an algorithm makes the terms indefinite. *See Noah*, 675 F.3d at 1312 ("In cases such as this one, involving a special purpose computer-implemented means-plus-function limitation, . . . [w]e require that the specification disclose an algorithm for the performing the claimed function.").

### 3. The *Katz* Exception

Alarm.com argues that two of the terms, "means for receiving" and "means for storing," do not require an algorithm because, under *Katz*, the receiving and storing "functions can be achieved by a general purpose computer without special programming." *Katz*, 639 F.3d at 1316. In *Eon*, the Federal Circuit clarified that "claim terms involving *basic* 'processing,' 'receiving,' and 'storing' functions were not necessarily indefinite because a general purpose computer need not 'be specially programmed to perform the recited function.'" *Eon*, 785 F.3d at 621 (emphasis added). The *Eon* court explained that "a microprocessor can serve as structure for a computer-implemented function only where the claimed function is 'coextensive' with a microprocessor itself." *Id*. at 622.

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[3] While Figure 6 does have boxes for the "receiving," "performing," and "selecting" functions, it does not contain a "storing" step.

*Katz* does not apply to the "means for receiving" and "means for storing" terms here because the invention is premised on, and requires, special programming. Alarm.com admitted that the hardware is not innovative and that the claimed functions require programming. The terms do not involve the "basic" functions *Katz* contemplated, and the *Katz* exception does not apply.

### C.    The '276 Patent

The parties dispute three terms in the '276 patent. The parties cited intrinsic evidence to support their competing constructions of "custom-built for the mobile device," and they cited extrinsic expert testimony to support their constructions of "performing . . . a synchronization to associate the mobile device with the monitoring system" and "synchronization." The disputed terms in claims 1 and 2 are set out in bold:

> **1.**    A system comprising: . . .
>
> > a mobile device that is provided separately from the monitoring system by a company that is different than a company that provides the monitoring system, the mobile device including applications that, when run on the mobile device, perform operations comprising:
> >
> > **performing a synchronization to associate the mobile device with the monitoring system**;
> >
> > based on the **synchronization**, receiving by the mobile device one or more data communications descriptive of sensor events detected by the monitoring system at the premise . . .
>
> 2.    The security system of claim **1**, wherein at least one of the applications is **custom-built for the mobile device**.

('276 Patent, Claims 1, 2).[4]

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[4] "[S]ynchronization" appears in all of the asserted claims.

### i.      Construing "custom-built for the mobile device."

### 1.      The Parties' Contentions

Alarm.com argues that the court should use the plain and ordinary meaning. (Docket Entry

No. 59-1 at 17). Alarm.com reasons that "custom-built for the mobile device" is not indefinite

because it is not a term of art; ipDataTel has not overcome the presumption that "[c]laim terms are

'generally given their ordinary and customary meaning,'" *Phillips*, 415 F.3d at 1312; and the '276

patent specification "supports a plain and ordinary meaning construction for these terms." (Docket

Entry No. 105 at 17–18). Alarm.com refers to two specification passages:

> ***Custom-built*** clients (not shown) that access the iConnect web services XML API
> to interact with users' home security and self-monitoring information in new and
> unique ways. Such clients could include new types of mobile devices, or complex
> applications where integrated security system content is integrated into a broader set
> of application features . . . .
>
> The iConnect servers **104** also support ***custom-built*** integrations with a service
> provider's existing OSS/BSS, CSR and service delivery systems **290**. Such systems
> can access the iConnect web services XML API to transfer data to and from the
> iConnect servers **104**. These types of integrations can compliment or replace the PC
> browser-based Service Management applications, depending on service provider
> needs.

('276 Patent, Column 7, Line 64–Column 8, Line 3; Column 11, Lines 28–32) (emphasis added)).

"[C]ustom-built" in those contexts, according to Alarm.com, sufficiently advises a person of

ordinary skill in the art of the scope of the term, undermining ipDataTel's indefiniteness argument.

ipDataTel responds that Alarm.com has failed to "refute [its] assertion of indefiniteness."

(Docket Entry No. 100 at 24). ipDataTel focuses on the specification language, "Custom-built

clients (not shown)." ipDataTel contends that based "[o]n this language alone, 'the claims, viewed

in light of the specification and prosecution history,' do not 'inform, with reasonable certainty, those

skilled in the art about the invention.'" (*Id*. at 24). More broadly, ipDataTel argues that "Alarm.com has completely failed to explain what this term means," making it indefinite. (*Id.*).

### 2. Analysis

Section 112 "entails a delicate balance." *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2128 (2014) (quotation omitted). "On one hand, the definiteness requirement must take into account the inherent limitations of language." *Id.* "At the same time, a patent must be precise enough to afford clear notice of what is claimed." *Id.* at 2129; s*ee Dow Chem. Co. v. Nova Chems. Corp. (Canada)*, 803 F.3d 620, 630 (Fed. Cir. 2015) ("*Nautilus* emphasizes 'the definiteness requirement's public-notice function.'"). "Cognizant of the competing concerns, [the Supreme Court has] read § 112, ¶ 2 to require that a patent's claims . . . inform those skilled in the art about the scope of the invention with reasonable certainty." *Nautilus*, 134 S. Ct. at 2129.

At the *Markman* hearing, ipDataTel relied on *Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1368 (Fed. Cir. 2014), to argue that the term "custom-built" is subjective and without objective boundaries, making the claims indefinite. (Docket Entry No. 119 at 90: 3–8). In *Interval Licensing*, the parties disputed the meaning of "unobtrusive manner." *Interval Licensing*, 766 F.3d at 1367. Applying *Nautilus*, the Federal Circuit found that "'unobtrusive manner' . . . is highly subjective and, on its face, provides little guidance to one of skill in the art." *Id.* at 1371. The court reviewed the patent specification and this "'purely subjective' claim phrase," finding "that sufficient guidance is lacking in the written description of the asserted patents." *Id.* To satisfy § 112(2), a "purely subjective" term must "provide a reasonably clear and exclusive definition" and establish "an objective boundary." *Id.* at 1373. "Unobtrusive manner" did not meet these requirements.

ipDataTel argued that "custom-built," like "unobtrusive manner," "lacks objective boundaries" because it is "inherently subjective." (Docket Entry No. 119 at 90: 6, 24).

*Interval Licensing* "involved [a term that was] subjective in the sense that [it] turned on a person's tastes or opinions." *Sonix Tech. Co., Ltd. v. Publ'ns Int'l, Ltd.*, 844 F.3d 1370, 1378 (Fed. Cir. 2017); *see Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1350 (Fed. Cir. 2005); *Interval Licensing*, 766 F.3d at 1371 ("[A] term of degree fails to provide sufficient notice of its scope if it depends 'on the unpredictable vagaries of any one person's opinion.'"). *Interval Licensing* is inapposite because "custom-built," unlike "unobtrusive manner," is not a wholly subjective measure of the degree to which a certain quality is present. *See Datamize*, 417 F.3d at 1352 (analyzing the subjectivity of "aesthetically pleasing," a term of degree); *Enzo Biochem, Inc. v. Applera Corp.*, 559 F.3d 1325, 1332 (Fed. Cir. 2010). Nor does it "turn[] on a person's tastes or opinions." *Id*. at 1350. The issue here is not whether "custom-built" is too subjective, but whether it "inform[s], with reasonable certainty, those skilled in the art about the scope of the invention," to avoid indefiniteness. *Nautilus*, 134 S. Ct. at 2124.

At the *Markman* hearing, ipDataTel contended that "custom-built" is indefinite because the specification "language itself [states,] 'custom-built clients (not shown).'" (Docket Entry No. 119 at 91: 2–3); ('276 Patent, Column 7, Line 64). Focusing on the specification language "new and unique ways," ipDataTel also contended that "custom-built for the mobile device" means new types of mobile devices or complex applications that access certain web services, or new "integrations" with a service provider's web services, "not even existing at the time [that the patent was issued]." (Docket Entry No. 119 at 91); ('276 Patent, Column 7, Lines 64–67). According to ipDataTel, because the specification fails to "show[] what custom-built clients means," and because the

specification included undefined future applications of "custom-built," the term's meaning is unclear, making it indefinite under *Nautilus*. (Docket Entry No. 119 at 92: 1).

Alarm.com replied that term "custom-built for the mobile device" raises an objective "factual question for infringement. Is the application . . . custom-built for a mobile device? Or is it an application that could work on a variety of generic . . . devices?" (*Id.* at 95: 4–24). Alarm.com explained that "if [the application] is built for a particular mobile device[, then it] is custom-built." (*Id.*). Conversely, "[i]f [the application] is agnostic as to what device it's on, [then it is] not custom-built." (*Id.*). Alarm.com disputed ipDataTel's characterization of the "new and unique ways" language, arguing that whether the application on a particular mobile device will perform operations "in the future is simply irrelevant." (*Id.* at 96: 7–8).

In *Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 789 F.3d 1335, 1344–45 (Fed. Cir. 2015), the Federal Circuit held that claims with the term "molecular weight" were indefinite. "There were three relevant measures for molecular weight[,] peak average[,] number average[,] and weight average," and "[n]either the claims nor the specification contained an explicit definition of" the term. *See Dow Chem.*, 803 F.3d at 634–35 (explaining *Teva*, 789 F.3d at 1342–44). It did not satisfy *Nautilus*. *Teva*, 789 F.3d at 1345. "Custom-built" is similarly indefinite. The term "custom-built" for unspecified and unknowable—indeed, not yet existing—devices, requiring unspecified and unknowable customized features, is both broad and without definition. The failure to define or describe "custom-built . . . clients" or the vast range of possible components expands the meaning of "custom-built" to indefiniteness. Because the specification does not clarify its meaning," but instead sets out an undefined and undefinable range of future "clients," "integrations," or "components," the term is indefinite. *See Dow Chem.*, 803 F.3d at 635.

### ii. Construing "performing . . . a synchronization to associate the mobile device with the monitoring system" and "synchronization."

### 1. The Parties' Contentions

Alarm.com argues that the plain and ordinary meaning applies. (Docket Entry No. 59-1 at 19). ipDataTel contends that the term is indefinite. (*Id.*). The construction of this term turns on the significance and meaning of the intrinsic evidence and the parties' expert testimony.

Alarm.com argues that the Patent and Trademark Office's finding that the '276 patent's specification provided an adequate written description for the term establishes definiteness. (Docket Entry No. 105 at 22). In March 2015, the Patent Trial and Appeal Board decided an interference case between Alarm.com and iControl Networks, Inc. (Docket Entry No. 93-8). iControl had "requested an interference between: (1) Claims 62–79 of iControl [13/311,]365 application, and (2) Claims . . . of Alarm.com's '694 patent." (*Id.* at 3). Alarm.com moved the Board to "ent[er] judgment against [c]laims . . . of iControl's involved application," challenging the written description of "performing . . . a synchronization to associate the mobile device with the monitoring system" as inadequate. (*Id.* at 2). That is the same term at issue here. The Board found that the "description . . . reasonably conveys to one of ordinary skill . . . that iControl had possession of that limitation." (*Id.* at 27). In other words, "the Board determined that the '276 patent specification conveyed with reasonable clarity to those of ordinary skill [that] the inventor disclosed the claimed invention." (Docket Entry No. 105 at 22). According to Alarm.com, "[t]he Board's finding is powerful intrinsic evidence of definiteness" because the "proceedings related to the application that led to the '276 patent." (*Id.*).

Alarm.com also relies on its expert, Dr. Stuart Stubblebine, to show definiteness. Dr. Stubblebine testified that "in light of the intrinsic record, including the '276 patent specification,

prosecution history, and interference proceeding," a person of ordinary skill "would understand the term." (Docket Entry 93-1 at 9). Dr. Stubblebine concluded that the term is "sufficiently definite and provide[s] clear notice of what is claimed." (*Id.*). Alarm.com contends that even if the court finds ipDataTel's expert's testimony reliable, that evidence, "at most, creates a factual issue as to indefiniteness which should be denied by a jury at trial." (Docket Entry No. 105 at 23).

ipDataTel responds that Alarm.com's construction "is based on a fundamental mischaracterization of the interference involving the '276 patent." (Docket Entry No. 100 at 17). ipDataTel argues that the Board "never construed . . . 'performing a synchronization to associate the mobile device with the monitoring system' term[] in the iControl '365 application that issued as the '276 patent." (*Id.* at 19). Instead, the Board found that the term "met the written description requirement of 35 U.S.C. § 112." (*Id.* at 22).[5] ipDataTel argues that "the question of whether the specification has an adequate written description is a separate inquiry from whether the claims are definite." (*Id.*). According to ipDataTel, the court should not defer to the Board's decision, which is "not binding precedent on" a district court. (*Id.*).

ipDataTel also argues that Dr. Stubblebine's testimony is not reliable. ipDataTel asserts that the testimony "only provides the conclusory determination that the term is not indefinite, and "[s]uch 'assertions by [an] expert[] are not useful to a court.'" (*Id.* at 21 (quoting *Phillips*, 415 F.3d at 1318)). ipDataTel argues that the declaration of its expert, Dr. Engels, is "detailed" and "explain[s] why . . . 'performing a synchronization to associate the mobile device with the monitoring system' term is indefinite." (*Id.* at 20). Dr. Engels opines that "it is nonsensical to require a

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[5] According to ipDataTel, the Board interpreted "'synchronization,' [a term] in the Alarm.com '694 patent—not the iControl '365 application that issued as the '276 patent." (*Id*. at 19).

'synchronization' to result in or cause an 'associat[ion]' between a mobile device and a monitoring system because two devices cannot be synchronized unless they are already associated." (*Id.*).

Alarm.com replies that the '276 specification disproves Dr. Engels's opinion. Alarm.com relies on the Board's finding that "the specification describes the term 'synchronization to associate' 'in the context of the overall process of associating a mobile device . . . with a monitoring system in a network environment shown in [] Fig[ure]s. 1–2 that involve several network components, including, for example: End-User Application Components.'" (Docket Entry No. 105 at 20). Alarm.com also points to parts of the specification to establish associations between: (1) "a user of a mobile device . . . with the gateway . . . shown in Fig[ure]s. 1–2"; and (2) "home security and self-monitoring devices with gateways." (*Id.* at 21).

## 2. Analysis

The Patent and Trademark Office approved Alarm.com application 13/311,365, and issued the '276 patent in September 2015. (Docket Entry No. 93-7 at 1). iControl owned the '365 application when the interference between that application and the '694 patent took place in early 2015. Alarm.com argued that the '365 application claims were invalid "based on alleged lack of written description under 35 U.S.C. § 112, *first paragraph*." (Docket Entry No. 93-8 at 1) (emphasis added). The Board disagreed, finding that the phrase "performing . . . a synchronization to associate the mobile device with the monitoring system," satisfied the description requirement. (*Id.* at 2). Alarm.com relies on that finding to show definiteness.

Section 112(1)'s written description requirement[6] and 35 U.S.C. § 112(2)'s definiteness requirement,[7] "though closely intertwined, are analytically distinct." *Rengo Co., Ltd. v. Molins Mach. Co., Inc.*, 657 F.2d 535, 550 (3d Cir. 1981); *see Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1561 (Fed. Cir. 1991); *Application of Cormany*, 476 F.2d 998, 999–1000 (C.C.P.A. 1973) ("We regard indefiniteness of claim language and inadequate support for it in the specification to be distinct questions."); MANUAL OF PATENT EXAMINATION PROCEDURES § 2174 (9th ed. 2018) ("The requirements of 35 U.S.C. § 112(a) and (b) . . . are separate and distinct."). The requirements govern different patent components and are judged by different standards. "Adequacy of the written description is a question of fact." *GlaxoSmithKline LLC v. Banner Pharmacaps, Inc.*, 744 F.3d 725, 729 (Fed. Cir. 2014). By contrast, "[i]ndefiniteness is a question of law." *Teva*, 789 F.3d at 1341.

The Board's finding, though part of the '276 patent intrinsic record, has limited value here. The Board did not construe "performing . . . a synchronization" or "synchronization." Rather, the Board found that "performing . . . a synchronization" satisfied the description requirement. Alarm.com does not adequately explain why the court should equate the Board's finding on the description requirement to a finding of definiteness. *See Mahurkar*, 935 F.2d at 1561 ("[T]here is a subtle relationship between the policies underlying the description and definiteness requirements,

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[6] Section 112(1) provides: "The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor or joint inventor of carrying out the invention."

[7] Section 112(2) provides: "The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention."

as the two standards, while complementary, approach a similar problem from different directions.").

Alarm.com conflates the issues by equating definiteness with a written description.[8]

As to the parties' expert testimony, Dr. Stubblebine's opinion is "conclusory [and] unsupported." *Phillips*, 415 F.3d at 1318 ("[C]onclusory [and] unsupported assertions by experts as to the definition of a claim term are not useful to a court."); *see also Chico's FAS, Inc. v. Clair*, No. 13-792, 2015 WL 1125027, at *6 (M.D. Fla. Mar. 12, 2015); *WBIP, LLC v. Kohler Co.*, 910 F. Supp. 2d 325, 333 (D. Mass. 2012). Dr. Stubblebine gives his opinion in one terse paragraph:

> It is my opinion, based on my review of the materials and in light of my professional training and experience, that [a person of ordinary skill in the art] would understand the term . . . with reasonable certainty when viewed in light of the intrinsic record. Accordingly, it is my opinion th[e] term is sufficiently definite and provide[s] clear notice of what is claimed.

(Docket Entry No. 93-1 at ¶ 33).

Dr. Engels, by comparison, gives a reasoned and detailed opinion substantiating his conclusion of indefiniteness. He explains that the term's "fundamental flaw" is the combination of "synchronization" and "to associate." (Docket Entry No. 101-2 at 18). Dr. Engels concludes that in this context, "association" must occur before "synchronization." (*Id.* at 19). The term provides the opposite order. The term is indefinite because "a person of ordinary skill in the art . . . would have found it nonsensical" to have synchronization before and without association. (*Id.*). The court credits Dr. Engels' testimony.

Alarm.com relies on the interference proceeding to rebut Dr. Engels's contention that "synchronization to associate" is "nonsensical." Alarm.com cites the Board's opinion that "[n]either the term 'synchronization' nor 'associate' is defined by the '365 application. The term

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[8] Alarm.com concludes that the different expert opinions "at most, creates a factual issue as to indefiniteness." (Docket Entry No. 105 at 23). Case law provides that definiteness is a question of law, not fact. *See, e.g.*, *Tech. Licensing Corp.*, 545 F.3d at 1338.

'synchronization to associate' is described in the overall process of associating a mobile device."

(Docket Entry No. 93-8 at 23). Alarm.com also refers to the '276 patent specification passages that

detail instances of association. As noted, the Board did not construe "synchronization to associate"

or examine its meaning, and the specification does not include"performing a synchronization to

associate." This term appears only in the claims. Although the specification includes the word

"synchronization" twice, it is in the different contexts of "user preferences" and "Network

Manager," not in the context of "the mobile device with the monitoring systems." ('276 Patent,

Column 19, Lines 4–16, 58–62).

Alarm.com's arguments do not respond adequately to ipDataTel's reliable expert testimony.

Because "performing a synchronization to associate the mobile device with the monitoring system"

does not "inform those skilled in the art about the scope of the invention with reasonable certainty,"

*Nautilus*, 134 S. Ct. at 2129, the term is indefinite.

### iii.     Construing "synchronization."

#### 1.        The Parties' Contentions

Alarm.com argues that the term means a "two-way exchange of information over an

electronic network to establish a communication link between the mobile device and the monitoring

system." (Docket Entry No. 59-1 at 21). ipDataTel contends that the term is indefinite[9] or,

alternatively, that it means "performing a process, that involves more than account authentication

or registration, that ensures consistency in state and time." (*Id.*).

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[9] ipDataTel does not point to evidence to support its argument that "synchronization" is indefinite. Dr. Engels's declaration addressed only "performing a synchronization to associate the mobile device with the monitoring system," not "synchronization." ipDataTel's response brief and argument at the *Markman* hearing contain conclusory assertions that the term is indefinite.

Alarm.com observes that "the parties' propos[als] for the term . . . are not fundamentally different. The only discrepancy appears to be ipDataTel's added requirement that the time must be consistent in more than one location." (Docket Entry No. 93 at 22); (Docket Entry No. 119 at 68: 3–4, 85–86). Alarm.com contests that construction, pointing to Dr. Stubblebine's opinion that a person of ordinary skill "would understand that 'synchronization' does not necessarily include the requirement that time must be consistent in more than one location." (Docket Entry No. 93-1 at 9). According to Dr. Stubblebine, a person of ordinary skill would also "understand that the act of performing a 'synchronization' does not necessarily mean that two locations are always 'in sync' or synchronized." (*Id.*). Alarm.com responds that the Board "rejected [ipDataTel's proposed] definition during [the iControl] interference proceedings." (*Id.*).

ipDataTel argues that the Board analyzed "synchronization" in the '694 patent, not the '365 application that became the '276 patent at issue here. (Docket Entry No. 100 at 23). According to ipDataTel, the '694 patent finding is irrelevant, and the court should reject Alarm.com's construction that relies on the Board's finding. (*Id.*). Notwithstanding, ipDataTel observes that the Board "acknowledge[d] that the term 'synchronization' may have an industry understood definition[, which] may include 'some sort of consistency in state and time.'" (*Id.*; Docket Entry No. 93-8 at 53). Alarm.com supported that construction at the interference. (Docket Entry No. 100 at 23). ipDataTel also argues that Alarm.com fails to support its proposed construction because it relied on the Board finding, and not on the '276 patent specification. (*Id.*).

## 2. Analysis

Alarm.com's proposed construction lacks evidentiary support. Dr. Stubblebine did not offer an opinion, and Alarm.com's reply brief does not address it. Alarm.com's opening brief stated:

> Finally, the findings of the Board support Alarm.com's proposed construction of 'synchronization' as a 'two-way exchange of information over an electronic network . . .' For instance, the Board found the term 'synchronization to associate' to be described in the context of the overall process of associating a mobile device with a monitoring system in the network environment shown in Fig[ure]s. 1-2.

(Docket Entry 93 at 24). Alarm.com fails to explain how the Board's finding supports its interpretation. Among other issues, the finding appears to discuss "associating," not a "two-way exchange of information."

Alarm.com points to little evidence in contesting ipDataTel's construction. Dr. Stubblebine concluded that "'synchronization' does not necessarily include" time-consistency or location-consistency requirements. (Docket Entry No. 93-1 at 9). His opinion is conclusory. It relies on the Board's construction of "synchronization" in the '694 patent, not the patent at issue. ipDataTel correctly observes that the Board did not construe "synchronization" in the '276 patent. The Board held that "[n]either 'state' nor 'time' is required in connection with the term 'synchronization'" in the '694 patent. (Docket Entry No. 93-8 at 54).

Although Dr. Stubblebine's testimony is unpersuasive, Dr. Engels offers little support for ipDataTel's construction. He concludes that "the term 'synchronization' in the context of a device . . . and another item means ensuring consistency in state and time between the two." (Docket Entry No. 101-2 at 19). Although ipDataTel argues that the court should adopt its construction because Alarm.com proposed the same definition to the Board during the interference, Alarm.com's proposal concerned the '694 patent, not the '365 application or the '276 patent. "The term 'synchronization' may have an industry understood definition[, which] may include 'some sort of consistency in state and time.'" (Docket Entry No. 93-8 at 53). The Board merely stated an impression of that finding, and left open whether there is an industry definition of "synchronization."

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At the *Markman* hearing, Alarm.com agreed to ipDataTel's proposed construction as long as it did not include "perpetual synchronization." (Docket Entry No. 119 at 85: 14–17). ipDataTel did not contest Alarm.com's approach to construing the term. Instead, ipDataTel focused its argument on Alarm.com's different proposed construction. ipDataTel conceded that definiteness does not require specifying the precise period of synchronization. The court adopts a modified construction of ipDataTel's proposal, that includes synchronization but does not specify that the consistency in state and time must be static, permanent, or lasting.
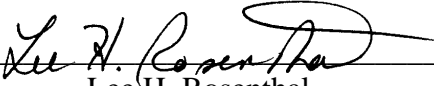
"Synchronization" is construed to mean "performing a process, that involves more than account authentication or registration, that ensures consistency in state and time for some period."

## IV. Conclusion

a. "[S]elect a communication mode of the plurality of communication modes" is construed to mean "determine which communication mode is the best for transmitting data to the external network at any point in time."

b. The following means-plus-function terms are indefinite under § 112(2) for failure to disclose adequate structure corresponding to the claimed function: "means for receiving a first set of data over a network from an alarm system communication unit"; "means for performing a first pre-determined response"; "means for storing a set of responses to keypad bus information"; and "means for selecting the pre-determined response to the keypad bus information in the first set of data from the set of responses."

c.      "[C]ustom-built for the mobile device" is indefinite under § 112(2) for failure to "inform those skilled in the art about the scope of the invention with reasonable certainty." *Nautilus*, 134 S. Ct. at 2129.

d.      "[P]erforming a synchronization to associate the mobile device with the monitoring system" is indefinite under § 112(2) for failure to "inform those skilled in the art about the scope of the invention with reasonable certainty. *Nautilus*, 134 S. Ct. at 2129.

e.      "Synchronization" is construed to mean "performing a process, that involves more than account authentication or registration, that ensures consistency in state and time for some period."

SIGNED on October 19, 2018, at Houston, Texas.

Lee H. Rosenthal
Chief United States District Judge